## REMARKS/ARGUMENTS

The present Amendment is responsive to the final Office Action mailed May 26, 2009 in the above-identified application.

Claim 3 is canceled without prejudice or disclaimer. Therefore, claims 1-2 and 4-26 are the claims currently pending in the present application.

Claims 1 and 11 are amended to clarify features recited thereby. These amendments are fully supported by Applicant's disclosure. Further, claim 5 is amended to depend from claim 1 so that it continues to depend from a claim still pending in the application.

The amendments to claim 1 add a feature previously recited in claim 3 (now canceled) and thus introduce no recitations into the claims that had previously been unrecited. Accordingly, the claim amendments raise no new issues that would require further searching of the art and thus no Request for Continued Examination is filed herewith.

### *Rejection of Claims 1-2, 6-15, 18-24 and 26 under 35 U.S.C. § 103*

Claims 1-2, 6-15, 18-24 and 26 are rejected under 35 U.S.C. § 103 as being obvious from Wright, European Patent No. 0887129. Reconsideration of this rejection is respectfully requested.

Claim 1 requires a sequence casting process for the continuous production of the high-purity cast metal strand from a metal melt, the process comprising during a first period of time starting from a resumption of the feeding of the metal melt into the tundish until a point at which a quasi-steady-state operation bath level in the tundish is reached, an inflow rate into the tundish is greater than an outflow rate out of the tundish, and such that for 70% to 100% of the first period of time the inflow rate into the tundish is less than or equal to double the outflow rate out of tundish, wherein the feeding of the metal melt within the last 5% to 30% of the first period of time is performed at a reduced inflow rate compared with the inflow rate during a preceding time period of the first period of time.

The Office Action acknowledges (page 7) that Wright does not disclose that during the last 5% to 30% of the first period of time reduced inflow takes place compared with the inflow rate during a preceding time period of the first period of time, as required by claim 1. Accordingly, Wright does not disclose or suggest the recitations of claim 1.

Claims 2, 6-15, 18-24 and 26 depend from claim 1, and are therefore patentably distinguishable over the cited art for at least the same reasons.

***Rejection of Claims 3-5, 16-17 and 25 under 35 U.S.C. § 103***

Claims 3-5, 16-17 and 25 are rejected under 35 U.S.C. § 103 as being obvious from Wright, as applied to claims 1 and 15 above, in view of Melville et al., U.S. Patent No. 5,887,647. Reconsideration of this rejection is respectfully requested.

Claim 1 requires a sequence casting process for the continuous production of the high-purity cast metal strand from a metal melt, the process comprising during a first period of time starting from a resumption of the feeding of the metal melt into the tundish until a point at which a quasi-steady-state operation bath level in the tundish is reached, an inflow rate into the tundish is greater than an outflow rate out of the tundish, and such that for 70% to 100% of the first period of time the inflow rate into the tundish is less than or equal to double the outflow rate out of tundish, wherein the feeding of the metal melt within the last 5% to 30% of the first period of time is performed at a reduced inflow rate compared with the inflow rate during a preceding time period of the first period of time.

As discussed, the Office Action acknowledges (page 7) that Wright does not disclose that during the last 5% to 30% of the first period of time reduced inflow rate takes place compared with the inflow rate during a preceding time period, as required by claim 1. However, the Office Action alleges that Melville discloses or suggests such features, citing Melville, col. 5, lines 23-31, which discloses a sequence casting process in which during the change from one ladle or melt vessel to the next a decreased outflow from the tundish is used.

The Office Action acknowledges that the cited art, including Wright and Melville, does not specifically discuss a reduced inflow rate as required by claim 1. However, the Office Action alleges that the references teach that a speed of inflow in relation to outflow and the casting rate is a "result effective variable" which effects the quality of a cast metal strip. Therefore, the Office Action alleges that the particular ranges cited in claim 1 regarding decreased or reduced inflow rates are a matter of design choice and routine optimization which would have been obvious to a person of ordinary skill in the art "to optimize the inflow rate through routine optimization in order to balance the efficiency and throughput of the process with product quality" (Office Action, page 7).

Wright and Melville do not disclose or suggest that the feeding of the metal melt within the last 5% to 30% of the first period of time is performed at a reduced inflow rate compared with the inflow rate during a preceding time period of the first period of time, as further required by claim 1.

Melville discloses that the flow rate may be reduced in order to reduce the casting speed and to allow sufficient time for ladle changeover. However, this aspect of Melville is directed to a solution different from the solution provided by Applicant's invention as claimed in claim 1 and Melville discloses a situation different from a situation addressed by claim 1. Claim 1 requires a sequence casting process for continuous production of high-purity cast metal strand. Thus, according to an aspect of Applicant's invention as claimed in claim 1, the casting speed is not decreased. As required by claim 1, during the last phase of the first period of time (before the quasi-steady-state is reached), the flow from the ladle to the tundish is reduced. Accordingly, by reducing the flow rate in this last phase of the first period of time the quasi-steady-state may be achieved more smoothly and disturbances caused by the phase change can be suppressed or mitigated compared with the conventional process.

Moreover, it is respectfully submitted that the recitations of claim 1 would not have been obvious to a person of ordinary skill in the art based on Wright and Melville. First, providing different flow rates during the first period of time, and more particularly providing a range for the final phase of the first period of time during which a reduced rate of inflow is provided compared with a preceding phase of the first period of time as required by claim 1 would not have been obvious based on Wright and Melville. Melville's disclosure of decreased flow rate involves a reduction in casting speed.

The Office Action alleges that the reduced inflow rate are basically a design choice based on routine optimization. However, the Examiner appears to be engaging in impermissible hindsight reconstruction based on Applicant's own disclosure because the complex effects in the tundish, including the flow rate and the issue of undesired material in the steel, would not have been addressed through simply a process of trial and error. Also, Wright does not disclose or suggest reducing casting speed as disclosed by Melville and therefore the combination of these references would have led a person of ordinary skill in the art to two different conflicting solutions, and the selection of one to the exclusion of the other would have been based on Applicant's own disclosure. Wright discloses that the flow of liquid metal from the ladle to the tundish takes 33% and up to 90% of the time during casting. Further, Wright is directed to minimizing the variation of the level of liquid steel in the tundish by balancing the flow of metal from the ladle to the tundish (normal operation), and by a higher flow rate from the ladle to the tundish then from the tundish to the mold. Further, Wright discloses that the vessel may be adjusted to accommodate varying volumes of metal. Wright states that the level of melt in the

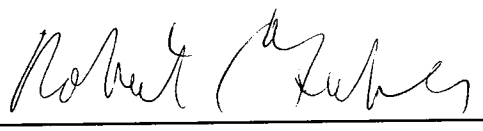
tundish should be kept constant whatever the volume of the tundish is. This may be achieved by a tilting tundish.

First, the higher flow rate disclosed at Wright, col. 2, lines 16-19 is a general teaching and Wright does not specify the period of time during which this higher flow rate should be maintained. Because of the limited period of time when steel flows from the ladle to the tundish, it may be assumed that this high flow rate may be necessary even during standard operation especially for the 33% charging period disclosed by Wright. Thus, Wright discloses or suggests no specific period of time during which a high charging rate is maintained. Accordingly, it is respectfully submitted that Wright and Melville, even taken together in combination, do not disclose or suggest the recitations of claim 1.

Claims 4-5, 16-17 and 25 depend from claim 1, and are therefore patentably distinguishable over the cited art for at least the same reasons. Claim 3 is canceled without prejudice or disclaimer, and therefore, the rejection as to this claim is moot.

In view of the foregoing, withdrawal of the rejections and allowance of the claims of the application are respectfully requested.

Respectfully submitted,



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